**REMARKS**

The Office Action dated March 30, 2009, has been received and carefully considered. In this response, claims 1 and 10 have been amended. No new matter has been added. Entry of the amendments to claims 1 and 10 is respectfully requested. Reconsideration of the pending rejections in the present application is also respectfully requested based on the following remarks.[1]

I. THE NON-STATUTORY SUBJECT MATTER REJECTION OF CLAIMS 1-14

On pages 2-3 of the Office Action, claims 1-14 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. This rejection is hereby respectfully traversed.

"A claimed process is patent-eligible under § 101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing." In re Bilski, 545 F.3d 943, 954 (Fed. Cir. 2008). That

[1] As Applicants' remarks with respect to the Examiner's rejections are sufficient to overcome these rejections, Applicants' silence as to assertions made by the Examiner in the Office Action or certain requirements that may be applicable to such rejections (e.g., assertions regarding dependent claims, whether a reference constitutes prior art, whether references are legally combinable for obviousness purposes) is not a concession by Applicants that such assertions are accurate or such requirements have been met, and Applicants reserve the right to analyze and dispute such in the future.

is, "a claimed process involving a fundamental principle that uses a particular machine or apparatus would not pre-empt uses of the principle that do not also use the specified machine or apparatus in the manner claimed." Id. Also, "a claimed process that transforms a particular article to a specified different state or thing by applying a fundamental principle would not pre-empt the use of the principle to transform any other article, to transform the same article but in a manner not covered by the claim, or to do anything other than transform the specified article." Id. Thus, "a claim that is tied to a particular machine or brings about a particular transformation of a particular article does not pre-empt all uses of a fundamental principle in any field but rather is limited to a particular use, a specific application." Id. at 957. However, even if a claim recites a specific machine or a particular transformation of a specific article, the recited machine or transformation must not constitute mere "insignificant postsolution activity." Id.

The Examiner asserts that claims 1-14 are directed to non-statutory subject matter. Applicant respectfully disagrees. However, in order to forward the present application toward allowance, Applicant has amended claim 1 to more clearly recite a process that: (1) is tied to a particular machine or

apparatus, or (2) transforms a particular article into a different state or thing. In particular, Applicant respectfully submits that amended claim 1 recites a process that provides a programmable logic device (PLD) having contacts and then assigns a set of one or more contacts of the PLD to one or more respective contacts of an electronic component based at least in part on a pattern of electrically conductive traces routed from respective contacts of the electronic component via one or more channels formed at one or more layers of the signal routing device. Thus, claim 1 is directed towards statutory subject matter.

Claim 10, while different in scope from claim 1, has been amended to contain a similar limitation. Thus, claim 10 is also directed towards statutory subject matter.

Claims 2-9 and 11-14 are dependent upon independent claims 1 and 10, respectively, and thus inherently incorporate all of the limitations of independent claims 1 and 10, respectively. Thus, claims 2-9 and 11-14 should also be allowable at least by virtue of their dependency on independent claims 1 and 10.

In view of the foregoing, Applicant respectfully requests that the aforementioned non-statutory subject matter rejection of claims 1-14 be withdrawn.

II. THE OBVIOUSNESS REJECTION OF CLAIMS 1-18

On pages 3-10 of the Office Action, claims 1-18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over German Patent Application Publication No. DE19922186 to Hauser et al. ("Hauser") in view of U.S. Patent No. 6,184,713 to Agrawal et al. ("Agrawal"). This rejection is hereby respectfully traversed.

Under 35 U.S.C. § 103, the Patent Office bears the burden of establishing a prima facie case of obviousness. In re Fine, 837 F.2d 1071, 1074 (Fed. Cir. 1988). There are four separate factual inquiries to consider in making an obviousness determination: (1) the scope and content of the prior art; (2) the level of ordinary skill in the field of the invention; (3) the differences between the claimed invention and the prior art; and (4) the existence of any objective evidence, or "secondary considerations," of non-obviousness. Graham v. John Deere Co., 383 U.S. 1, 17-18 (1966); see also KSR Int'l Co. v. Teleflex Inc., 127 S. Ct. 1727 (2007). An "expansive and flexible approach" should be applied when determining obviousness based on a combination of prior art references. KSR, 127 S. Ct. at 1739. However, a claimed invention combining multiple known elements is not rendered obvious simply because each element was

known independently in the prior art. Id. at 1741. Rather, there must still be some "reason that would have prompted" a person of ordinary skill in the art to combine the elements in the specific way that he or she did. Id.; In re Icon Health & Fitness, Inc., 496 F.3d 1374, 1380 (Fed. Cir. 2007). Also, modification of a prior art reference may be obvious only if there exists a reason that would have prompted a person of ordinary skill to make the change. KSR, 127 S. Ct. at 1740-41.

Regarding claim 1, the Examiner asserts that the claimed invention would have been obvious in view of Hauser and Agrawal. Applicant respectfully disagrees. In particular, Applicant respectfully submits that Hauser and Agrawal, either alone or in combination, fail to disclose, or even suggest, a method for mapping contacts of a programmable logic device (PLD) to contacts of an electronic component in a signal routing device comprising assigning a set of one or more contacts of the PLD to one or more respective contacts of the electronic component based at least in part on a pattern of electrically conductive traces routed from respective contacts of the electronic component via one or more channels formed at one or more layers of the signal routing device, wherein the one or more channels are formed by arranging vias for contacts of at least the electronic component in the signal routing device, as presently

claimed. In contrast, Hauser simply discloses a technique for mirror image wiring wherein an integrated circuit device has a first group of terminals that may be used for standard pin layout connections and a second group of terminals that may be used for mirror image pin layout connections. Also, Agrawal simply discloses a complex programmable logic device (CPLD) having a plurality of I/O pins that are coupled to other circuits via printed circuit board (PCB) traces. Thus, Hauser and Agrawal, either alone or in combination, fail to disclose, or even suggest, a method for mapping contacts of a programmable logic device (PLD) to contacts of an electronic component in a signal routing device, as presently claimed. Accordingly, Applicant respectfully submits that claim 1 should be allowable over Hauser and Agrawal.

Regarding claims 2-9, these claims are dependent upon independent claim 1. If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. In re Fine, 837 F.2d 1071 (Fed. Cir. 1988). Thus, since independent claim 1 should be allowable as discussed above, claims 2-9 should also be allowable at least by virtue of their dependency on independent claim 1. Moreover, these claims recite additional features which are not disclosed, or even suggested, by the cited references taken either alone or in

combination. For example, claim 4 recites that the method of claim 1 further comprising: determining a first pattern of electrically conductive traces routed from respective contacts of the electronic component via at least one channel of the one or more channels; determining a contact assignment pattern for one or more contacts of the PLD based at least in part on the first pattern of electrically conductive traces; and refining the first pattern of electrically conductive traces based at least in part on the first contact assignment pattern to generate a second pattern of electrically conductive traces routed from the respective contacts of the electronic component via at least one of the one or more channels. Hauser and Agrawal, either alone or in combination, fail to disclose, or even suggest, these claimed limitations.

Regarding claim 10, the Examiner asserts that the claimed invention would have been obvious in view of Hauser and Agrawal. Applicant respectfully disagrees. In particular, Applicant respectfully submits that Hauser and Agrawal, either alone or in combination, fail to disclose, or even suggest, a method for mapping contacts of a programmable logic device (PLD) to contacts of an electronic component in a signal routing device comprising: determining a first pattern of electrically conductive traces routed from respective contacts of the

electronic component via one or more channels formed at one or more layers of the signal routing device; determining a first contact assignment pattern for one or more contacts of the PLD based at least in part on the first pattern of electrically conductive traces; refining the first pattern of electrically conductive traces based at least in part on the first contact assignment pattern to generate a second pattern of electrically conductive traces routed from the respective contacts of the electronic component via one or more channels formed at one or more layers of the signal routing device; and determining a second contact assignment pattern for one or more contacts of the PLD based at least in part on the second pattern of electrically conductive traces; wherein the one or more channels are formed by arranging vias for contacts of at least the electronic component in the signal routing device, as presently claimed. In contrast, Hauser simply discloses a technique for mirror image wiring wherein an integrated circuit device has a first group of terminals that may be used for standard pin layout connections and a second group of terminals that may be used for mirror image pin layout connections. Also, Agrawal simply discloses a complex programmable logic device (CPLD) having a plurality of I/O pins that are coupled to other circuits via printed circuit board (PCB) traces. Thus, Hauser

and Agrawal, either alone or in combination, fail to disclose, or even suggest, a method for mapping contacts of a programmable logic device (PLD) to contacts of an electronic component in a signal routing device, as presently claimed. Accordingly, Applicant respectfully submits that claim 1 should be allowable over Hauser and Agrawal.

Regarding claims 11-14, these claims are dependent upon independent claim 10. If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. In re Fine, 837 F.2d 1071 (Fed. Cir. 1988). Thus, since independent claim 10 should be allowable as discussed above, claims 11-14 should also be allowable at least by virtue of their dependency on independent claim 10. Moreover, these claims recite additional features which are not disclosed, or even suggested, by the cited references taken either alone or in combination. For example, claim 12 recites that the method of claim 1 further comprising: refining the second pattern of electrically conductive traces based at least in part on the second contact assignment pattern to generate a third pattern of electrically conductive traces routed from the respective contacts of the electronic component via one or more channels formed at one or more layers of the signal routing device; and determining a third contact assignment pattern for one or more

contacts of the PLD based at least in part on the third pattern of electrically conductive traces. Hauser and Agrawal, either alone or in combination, fail to disclose, or even suggest, these claimed limitations.

Regarding claims 15-18, these claims recite subject matter related to claims 1, 3, 8, and 9. Thus, the arguments set forth above with respect to claims 1, 3, 8, and 9 are equally applicable to claims 15-18. Accordingly, Applicant respectfully submits that claims 15-18 should be allowable over Hauser and Agrawal for the same reasons as set forth above with respect to claims 1, 3, 8, and 9.

In view of the foregoing, Applicant respectfully requests that the aforementioned obviousness rejection of claims 1-18 be withdrawn.

## III. CONCLUSION

In view of the foregoing, Applicant respectfully submits that the present application is in condition for allowance, and an early indication of the same is courteously solicited. The Examiner is respectfully requested to contact the undersigned by telephone at the below listed telephone number, in order to expedite resolution of any issues and to expedite passage of the

present application to issue, if any comments, questions, or suggestions arise in connection with the present application.

To the extent necessary, a petition for an extension of time under 37 CFR § 1.136 is hereby made.

Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-0206, and please credit any excess fees to the same deposit account.

Respectfully submitted,

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